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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/824,456	04/02/2001	Masaaki Yuri	NAK1-BO34	9508

7590 12/27/2002
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EXAMINER

MENEFEE, JAMES A

ART UNIT PAPER NUMBER

2828

DATE MAILED: 12/27/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/824,456

Applicant(s)

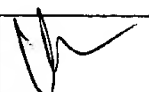
YURI ET AL.

Examiner

James A. Menefee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☒ Claim(s) 20-28 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: .

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DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 17 December 2001 has NOT been considered by the examiner. The IDS is noted as submitted but is not enclosed in the file. Please send in the IDS for this case in reply to this Office Action.

Specification

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the subject matter of claims 20-28 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

Claims 20-28 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The claims do not limit the subject matter of previous claims because merely providing the intended use of a device does not patentably distinguish it from the device in question. As these claims are only showing known uses for a laser, then using specifically the laser of claim 19 in such a system does not patentably distinguish that system from claim 19.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 16 recites the limitation "the plurality of semiconductor laser array elements". There is insufficient antecedent basis for this limitation in the claim. The claim depends on claim 2, which refers to a plurality of oscillators in a single array element. It is believed this term should read -the plurality of semiconductor laser oscillators-.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(c) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Meissner et al.

(US 5,936,984). Meissner discloses the claimed invention as follows:

Regarding claim 1, there is disclosed in Fig. 11 a semiconductor laser device comprising a plurality of laser light oscillators, laser arrays 1101 and 1105, that each emit laser beams from an outlet thereof, an optical element 1103, 1107 that at least partially reflects, scatters, or transmits a laser beam from one of the plurality of oscillators 1101, 1105. It is inherent that a portion of the laser beam from one of the oscillators is incident on at least one of the other light oscillators because, as is a well known and inherent property of a such a device, part of the light emitted from the oscillators 1101 and 1105 will be reflected in the system and will become incident on another of the oscillators.

Regarding claims 2-3, the oscillators may be formed as an array element 1101, or as a plurality of array elements 1105.

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Claims 1 and 4 are rejected under 35 U.S.C. 102(e) as being anticipated by Salokatve et al. (US 6,327,293). Salokatve discloses the following:

Regarding claim 1, there is disclosed a semiconductor laser device comprising a plurality of laser light oscillators 26, 12, that each emit a laser beam from an outlet thereof, an optical element 28 that at least partially reflects, scatters, or transmits a laser beam from one of the plurality of oscillators 26 so that a portion of the laser beam is incident on at least one of the other light oscillators 12.

Regarding claim 4, the portion of the beam that is partially reflected, scattered, or transmitted from optical element 28, is directed in the vicinity of the optical axis at the outlet of the other light oscillator 12.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-15 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meissner. Meissner discloses the limitations of the claims shown above, but does not disclose the following:

Regarding claims 5-12 and 18, the specifics of the optical element are not disclosed.

However, the examiner maintains that these are all known optical elements, and one skilled in

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the art would choose such an optical element as a matter of intended use as a known means of transporting the lasers emitted from the arrays. Therefore, it would have been obvious to one skilled in the art to choose any of these such known optical elements as a matter of obvious engineering design choice.

Regarding claims 13-14, it is not disclosed that further beams are emitted from an opposite side of the arrays 1101, 1105. However, it is well known that a laser may emit light from both of its ends. It would have been obvious to one skilled in the art to utilize lasers having outputs from both ends, because an output from a second end is often used to check and test the output characteristics of the laser, as is well known.

Regarding claim 15, the pump sources are laser diode arrays. It is well known that in forming a laser diode array, one first will form a number of lasers on a single substrate, therefore each laser will include substrate layers cut from a single wafer. It would have been obvious to one skilled in the art that the laser should be formed in such a way because forming all of the lasers at once on a single substrate eases the fabrication of the device, which is well known.

Claims 16-17 and 19-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meissner in view of Craig et al. (US 6,167,075). Meissner discloses the limitations of the claims shown above, but does not disclose the following:

Regarding claims 16-17, it is not disclosed that the elements of the laser array are index guided self-aligned structures. Craig teaches that elements of a laser array may be index guided (col. 14 lines 48-64). It would have been obvious to one skilled in the art to make the elements of

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the array index guided in order to eliminate optical overlap and provide greater optical confinement, as taught by Craig.

Regarding claim 19, the specifics of the optical element are deemed obvious as in the rejection of claims 5-12 and 18 above. Further, it is not disclosed that there are driving means to control which laser is operation at what time. Craig shows laser driver means connected to the elements of a laser array (Fig. 5). It would have been obvious to one skilled in the art to include separate driver means connected to each element so that a short or failure of one driving element does not cause failure of the entire driving means, as taught by Craig.

Regarding claims 20-28, these claims merely recite the intended use of the device of claim 19 in other well-known systems. The device of claim 19 is shown to be obvious. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. Since these well known structures are capable using generic lasers other than the ones claimed in claim 19, then they are capable of performing the intended use of the claimed device. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Menefee whose telephone number is (703) 605-4367. The examiner can normally be reached on M-F 8:30-5.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (703) 308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JM
December 18, 2002


QIYEN LEUNG
PRIMARY EXAMINER
for
SPE Paul Ip